

What Is Claimed Is:

1. A removable, pressure-adjustable shock-absorbing cushion device with an inflation pump for sports goods comprising;

an air cushion made up of an upper and a lower sheets provided with a plurality of round recesses or line recesses, said round and line recesses on said sheets having a vertical cross section and the bottoms of said recesses adhered together to keep the surfaces of said air cushion flat and the interior hollow space of said air cushion to maintain its original shape even if said air cushion is broken or not inflated and so to give shock-absorbing elasticity to said cushion;

an inflation pump being provided partly inside said air pump and its front extending out a cover enveloping said air cushion, said pump comprising a hollow tube whose middle section can be expanded or contracted like bellows to draw in or expel air out. both ends of said tube separately fixed with a one-way valve, one of said one-way valve drawing in air and the other expelling out air; and

a cover enveloping said air cushion and provided with a hole for the front of said inflation pump or an air nipple to extend out, said cover combined with said air cushion provided with said inflation pump making up a unit removable and pressure-adjustable able to be used in sports goods such as sports shoes, knee protectors, ect.

2. The removable, pressure-adjustable shock-absorbing cushion device for sports goods as claimed in Claim 1, wherein said cover is made of cloth, leather, or fiber.

3. The removable, pressure-adjustable shock-absorbing cushion device for sports goods as claimed in Claim 1, wherein said cover is at its front provided with several eyelets for a shoe lace to go through and a hole for the front of an inflation pump set in said air cushion to extend and preferably at its rear end.

4. The removable, pressure-adjustable shock-absorbing cushion device for sports goods as claimed in Claim 1, wherein said inflation pump comprises a middle tubal section expansible and contractible, the rear end of said pump connected with a one-way valve only drawing air into said air cushion, the front end of said pump connected with a one-way valve only drawing air outside into said pump.

5. The removable, pressure-adjustable shock-absorbing cushion device for sports goods as claimed in Claims 1 and 4, wherein said oneway valves are separately set in a base, and a bar is set connected with said one-way valve at the front of said pump and extending backward, said bar being possible to be pushed backward by pushing said one-way valve to force the one-way valve at the rear end of said pump to retreat so that both of said valves can simultaneously be made open to deflate said air cushion.

6. A kind of air cushion comprising a removable, pressure-adjustable shock-absorbing cushion device with an inflation pump for sports goods, wherein the upper and the lower sheets of said air cushion are provided with a plurality of round recesses and adhered together with said round recesses, the cross-section of said said round recesses being shaped as vertical square, and the cross section of two round recesses abutting each other being shaped as hollow square.

7. The air cushion comprising a removable, pressure-adjustable shock-absorbing cushion device with an inflation pump for sports goods as claimed in Claim 6, wherein the upper and the lower sheets of said air cushion can also be provided with a plurality of crosswise line recesses and adhered together with said line recesses, the width of each line recesses serving as the expansible and contractible space to furnish said air cushion with good crosswise flexibility, the cross section of said line recesses being inwardly recessing square, the cross section of the air cushion between two line recesses being hollow square, and at least one end of each line recess not connecting with the circumferential edge so that a passage can be formed between said ends of said line recesses and the circumferential edge for the air inside said air cushion to pass through.

8. The air cushion as claimed in Claim 7, wherein said crosswise line recesses can be made to connect with the circumferential edge at both ends, at least a hollow tube smaller

than the height of said air cushion having to be fixed across each line recess for the air to pass through.

9. The air cushion as claimed in Claim 6, wherein said upper and lower sheets of said air cushion can be provided with lengthwise line recesses, the cross section of each line recess being shaped as inwardly recessing square, the cross section of said air cushion between two line recesses being shaped as hollow square, and said lengthwise line recesses furnishing said air cushion with good lengthwise flexibility.

10. The air cushion as claimed in Claim 9, wherein at least one end of every lengthwise line recess does not connect with the circumferential edge to form an air-flowing passage inside said air cushion.

11. The air cushion as claimed in Claim 9, wherein every lengthwise line recess can connect with the circumferential edge at both ends, at least a tube smaller than the height of said air cushion having to be set across each line recess for the air to pass through.

12. The air cushion as claimed in Claim 6, wherein the upper and the lower sheets of said air cushion can be provided with a combination of round recesses and line recesses, said line recesses being able to be made crosswise or lengthwise.

13. A kind of air cushion comprising a removable, pressure-adjustable, shock-absorbing cushion device for sports goods, wherein the upper and the lower sheets of said air cushion can be sustained with a middle sheet of a corrugated cross section set between them, the upper peaks and the lower peaks of said middle sheet separately adhered with the upper and the lower sheets for said air cushion to maintain the flatness of the upper and lower surfaces.

14. The air cushion as claimed in Claim 13, wherein the middle sheet set between the upper and the lower sheets can be shaped corrugated as waves, square, saw teeth or any form.

15. The air cushion as claimed in Claim 13, wherein the middle sheet is continuously bended squarely up and down between the upper and the lower sheets, and adhered with said both sheets by heat sealing.

16. The air cushion as claimed in Claims 1, 6, 7, 9, 12, 13, wherein the interior of the air cushion can be filled with air, foamed polyurethane, water, oil or any fluid of low percolation.

17. The air cushion as claimed in Claims 1, 6, 7, 9, 12, 13, wherein said air cushion can be shaped as a long strip with the front narrow and the rear broad.

18. The air cushion as claimed in Claims 1, 6, 7, 9, 12,

13, wherein said air cushion can be shaped wider at the middle section than at the rear section.

19. The air cushion as claimed in Claims 1, 6, 7, 9, 12, 13, wherein crosswise line recesses can be provided to furnish said air cushion with crosswise flexibility and space.

20. The air cushion as claimed in Claims 1, 6, 7, 9, 12, 13, wherein said air cushion can be shaped as any form with hollow space and flat upper and lower surfaces.

21. The air cushion as claimed in Claims 1, 6, 7, 9, 12, 13, wherein said inflation pump can be taken place by an air nipple made of rubber, said air nipple being inserted in a hollow tube set communicable with the interior of said air cushion, said air nipple provided with several protrusions at its rear end for hooking the end edge of said tube, at least one rubber band binding around the outer surface of said tube with said air nipple inserted therein, and said rubber band having good elasticity.

22. The air cushion as claimed in Claims 1, 6, 7, 9, 12, 13, 21, wherein said hollow tube for said air nipple to be inserted in can be provided with continuous threads around its outer face, the cross section of said threads being triangular, square, semicircular, oblong or of any form such that said tube inserted with said air nipple can have an excellent function in preventing air from percolating in.

23. The air cushion as claimed in Claims 1, 6, 7, 9, 12, 13, wherein said cover can be combined with shoes with eyelets, a zipper, a sticker fastener a snap fastener, a button, etc.

24. The air cushion as claimed in Claims 1, 6, 7, 9, 12, 13, 22, wherein said air cushion can be coated with foaming material on the upper face to make it flat.